



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/654,306	09/01/2000	Donald E. Mosier	00CR104/KE	5633

7590 09/08/2003

Rockwell Collins Inc  
Attn Kyle Eppele  
400 Collins Rd N E  
Cedar Rapids, IA 52498

EXAMINER

KOVALICK, VINCENT E

ART UNIT	PAPER NUMBER
----------	--------------

2673

DATE MAILED: 09/08/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**MAILED**

SEP 08 2003

**Technology Center 2600**



UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents  
United States Patent and Trademark Office  
P.O. Box 1450  
Alexandria, VA 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Paper No. 10

Application Number: 09/654,306  
Filing Date: September 01, 2000  
Appellant(s): MOSIER, DONALD E.

---

Kyle Eppele  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed July 2, 2003

**(1) *Real Party in Interest***

A statement identifying the real party in interest is contained in the brief.

**(2) *Related Appeals and Interferences***

A statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

**(3) *Status of Claims***

The statement of the status of the claims contained in the brief is correct.

**(4) *Status of Amendments After Final***

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

**(5) *Summary of Invention***

The summary of invention contained in the brief is correct.

**(6) *Issues***

The appellant's statement of the issues in the brief is correct.

**(7) *Grouping of Claims***

Appellant's brief includes a statement that claims 1-6; 7; 8-10; 11; 12-20; 21 and 22 stand or fall together and provides reasons as set forth in 37 CFR 1.192(c)(7) and (c)(8).

**(8) *Claims Appealed***

The copy of the appealed claims contained in the Appendix to the brief is correct.

Art Unit: 2673

**(9) Prior Art of Record**

<b>5,757,338</b>	<b><i>Bassetti et al.</i></b>	<b>5-1998</b>
<b>6,252,573</b>	<b><i>Ito et al.</i></b>	<b>6-2001</b>

**(10) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 1-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bassetti et al. (USP 5,757,338) taken with Ito et al. (USP 6,252,573).**

**Relative to claims 1, 8, 12 and 21-22** Bassetti et al. **teaches** EMI reduction for a flat-panel display controller using horizontal-line based Spread Spectrum (col. 6, lines 13-67; col. 7, lines 1-8 and Fig. 7). Bassetti et al. further **teaches** an apparatus comprising: means for controlling a display (col. 6, lines 13-16; col. 8, lines 52-54 and Fig. 7); and means for buffering input data received from a data source provided to said controlling means (col. 6, lines 14-16); and said

Art Unit: 2673

controlling means being adapted to provide a modulated driving signal to the display wherein at least one frequency component of the modulated driving signal is attenuated by the modulation such that emanated electromagnetic emissions are reduced (col. 6, lines 13-14 and col. 8, lines 52-54); further still, Bassetti et al. **teaches** means for providing input to be displayed in the display to said controlling means (col. 8, lines 54-64 and Fig. 7, item 50), and input data providing means being adapted to provide a modulated input data signal to said controlling means to accommodate the modulated driving signal provided by said controlling means to the display (col. 8, lines 56-64; col. 9, lines 46-48 and 64-67; col. 10 lines 1-5 and Fig. 7).

Bassetti et al. **does not teach** means for controlling a display wherein the modulated row driving signal has a different period or frequency for one row than for another row.

Ito et al. **teaches** a driver method, and drive circuit and a display device for liquid crystal cells (col. 10, lines 49-67; col. 11, lines 1-67; col. 12, lines 1-21 and Figs. 15A, 15B and 15C); Ito et al. further **teaches** means for controlling a display wherein the modulated row driving signal has a different period or frequency for one row than for another row (col. 21, lines 32-67; col. 22, lines 1-10 and Figs. 15A, 15B and 15C).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to incorporate in the device as taught by Bassetti et al. the feature as taught by Ito et al. in order to reduce electromagnetic emissions

**Regarding claims 2, 9 and 13**, Bassetti et al. **teaches** said apparatus wherein the modulated driving signal provided by said controlling means is being a spread spectrum modulated signal (col. 8, lines 15-17).

**Relative to claims 3, 10 and 16**, Bassetti et al. **teaches** said apparatus controlling means comprising a controller structure (col. 8, lines 52-54 and Fig. 7).

**Regarding claims 4 and 19**, Bassetti et al. **teaches** said apparatus buffering means comprising a memory structure (col. 8, lines 61-64).

Art Unit: 2673

**Relative to claims 5, 14 and 20**, Bassetti et al. **teaches** an apparatus wherein said buffering means comprises a FIFO memory structure (col. 8, lines 61-64).

**Regarding claim 6**, Bassetti et al. **teaches** said controlling means comprising a controller structure, said buffering means comprising a FIFO memory structure, and the modulated driving signal provided by the controller structure being a spread spectrum signal (col. 8, lines 52-54 and 61-64, and col. 9, lines 46-48 and Fig. 7).

**Regarding claims 7 and 11**, it would have been obvious to a person of ordinary skill in the art at the time of the invention that the apparatus as taught by Bassetti, et al. is adaptable for application in an avionics environment in that it could be cast in a structure designed to be compatible with an avionics environment.

**Relative to claim 15**, Bassetti et al. **teaches** said apparatus further comprising means for providing input data to be displayed in the display to said controlling means (col. 8, lines 61-64), said input data providing means being adapted to provide a modulated input data signal to said controlling means to accommodate the modulated driving signal provided by said controlling means to the display (col. 9, lines 56-67; col. 10, lines 1-3 and Fig. 7).

**Regarding claims 17 and 18**, Bassetti et al. **teaches** said apparatus causing means comprising a modulating circuit structure; and controlling means comprising a controller structure (col. 9, line 46-67 and Fig. 7 ).

Art Unit: 2673

**(11) Response to Argument**

Beginning with paragraph 2 on page 7, Appellant argues the following specific issue which are addressed below:

Argument 1, page 7: *Appellant argues « the frequency and period of the entire row is maintained constant as it is turned on and off and as the row selection waveforms are applied to row electrodes.*

Examiner respectfully disagrees; Appellant's argument is not related to the issue stated in the claims, the issue being addressed by Ito et al. is his teaching of varying one of the frequency components wherein the drive signal has a different period for one row than another.

Argument 2, page 10: *Appellant argues that "neither Bassetti nor Ito teaches or suggests the variation of the frequency, periods or times for the row driving signal as recited in independent claims 1, 8, 12, 21 and 22".*

The Examiner respectfully disagrees; based **on the language of the claims**, e. g. from claim 1, "wherein the modulated row driving signal has a different period for one row than for another row", Ito teaches (col. 21, lines 32-39 and Figs. 15A, 15B and 15C), the driving signal having a different period for each of rows X1, X2 and X3 in Figs. 15A, 15B and 15C.

For Fig. 15A, row X1 has a period of  $4\Delta t$  and  $4\Delta t$

row X2 has a period of  $2\Delta t$ ,  $2\Delta t$ ,  $2\Delta t$  and  $2\Delta t$ .

row X3 has a period of  $\Delta t$ ,  $\Delta t$ ,  $\Delta t$ ,  $\Delta t$ ,  $\Delta t$ ,  $\Delta t$ ,  $\Delta t$  and  $\Delta t$

Argument 3, page 12: *Appellant argues « the display comprises an avionics display»*

Examiner recognizes that, as recited by Bassetti et al. (col. 1, lines 17-25), EMI

Art Unit: 2673

emanating from a host of electronic equipment is a problem well understood in the art. The list of EMI emitting devices would include a display for application in an avionics system. In that the reduction of EMI noise is more critical in avionics applications than many other applications, any techniques to reduce EMI noise would be of benefit to the system.

Note: Applicant does not include a drawing that illustrates *the variation of the frequency, periods or times for the row driving signal* as taught in claims 1, 8, 12, 21 and 22.



Art Unit: 2673

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,



Vincent E. Kovalick  
September 4, 2003


Conferees; Amare Mengistu

Bipin Shalwala



Amare Mengistu  
Primary Examiner

Rockwell Collins Inc  
Attn Kyle Epple  
400 Collins Rd N E  
Cedar Rapids, IA 52498



BIPIN SHALWALA  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600